NASA SBIR/STTR Technologies

Deployable Vegetable Production System (Veggie)



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Identification and Significance of Innovation

- •Produces vegetable (salad) crops to supplement prepackaged foods during long stays in space
- •System deploys using telescoping or inflatable beams, or bellow type system
- •Expands from single middeck locker to > 1.5m²
- •Light source stows within same volume
- •Compressible nutrient and water delivery system,
- •Semi-passive atmospheric control system

Unstow 1 of 2 double sided growth chamber packs, activate inflation system to open lamp banks Second growing structure attached to bottom of first if desired, sharing root mat Root mat is attached to expanded bottom supports

Technical Objectives

- Develop mechanisms to transition the VEGGIE from a small stowed configuration to a large growing area configuration
- Develop a stowable lighting system
- Develop a compressible root zone
- Develop semi-passive atmospheric control system
- Fabricate working prototypes
- Evaluate planting scenarios
- •Conduct demonstration plant growth tests

NASA Applications

- •Provides crew with palatable, nutritious & safe source of fresh food
- •Provides crew with a tool for relaxation and recreation

Non-NASA Applications

- Horticulture therapy device in facilities where psychological and/or physical therapy is required
- Pre-college & college level science classes as educational tool
- Residential/business decorative display, recreational garden

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